

Commerce Safety and Buildings

Plumbing: Options & Requirements
for Sustainable Development



Comm 81-87 Wisconsin Uniform Plumbing Code

82.10(1)(b)., Plumbing systems shall be designed and adjusted to use the minimum quantity of water consistent with proper performance and cleaning

Kohler Plumbing Products

Current Rule Comm 84.20 (6) ASME A112.18.1m-2005

- Lavatory faucet 2.2 gpm
- Public lav faucet .5 gpm
- Metering faucet .25 gal/cycle
- Sink faucet 2.2 gpm
- Shower head 2.5 gpm
- Bath/shower None

Current Rule Comm 84.20 (6) ASME A112.18.1m-2005

- Utility faucets
 - Service sink 4.0 gpm
 - Law & sediment 4.0 gpm
 - Laundry tray 4.0 gpm
- Water Closets 1.6 gpf


FEDERAL RULE: Manufacturers

- Faucets (State rule complies)
- Water Closets (Comm = 1.6 gpf)
 - Gravity, tank type 1.6 gpf after 1/1/94
 - Commercial, white, two-piece after 1/1/97
 - Flushometer 1.6 gpf after 1/1/94
 - Blowout 3.5 gpf after 1/1/94
- Urinals (Comm = 1.5 gpf)
 - 1 gpf after 1/1/94



Plumbing Rule Wis. Adm. Code

Recirculation of Hot Water – Comm 82.40(5)(b),
Insulating Hot Water Piping - Comm 82.40(5)(b)3,
Demand Water Treatment Regeneration –
Comm 82.40(8)(j),

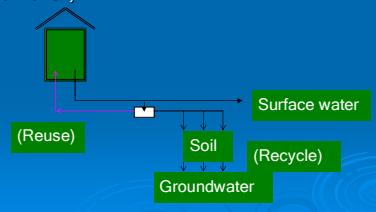


Plumbing Rule Wis. Adm. Code


“Suitable provision shall be made for treating, recycling, dispersing or holding the wastewater”

Comm 82.10 (2) (d),

WWTP: Discharge to surface water, depleting the groundwater
 POWTS: Onsite systems recycle wastewater to groundwater;
 Reuse: Reuse systems may incorporate irrigation - to groundwater;



Blackwater Reuse



The High Ground

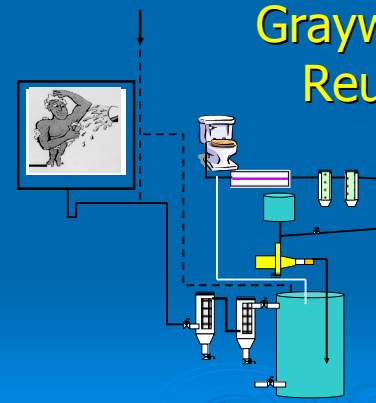
New restroom building

Mound System

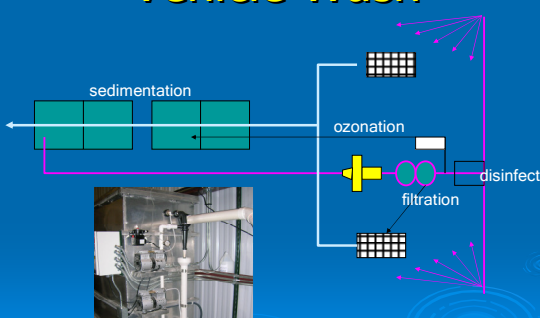
Multi-Flo

Trash tank

Graywater Reuse



Vehicle Wash



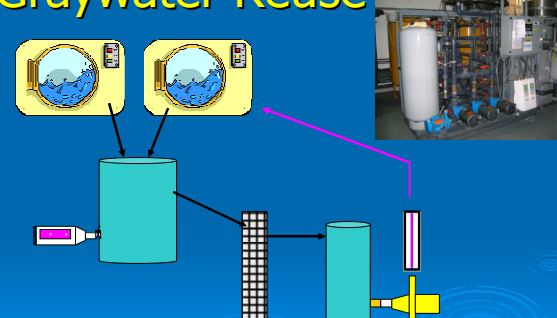
sedimentation

ozonation

filtration

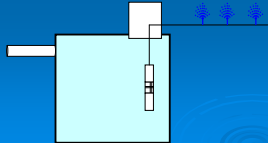
disinfection

Graywater Reuse

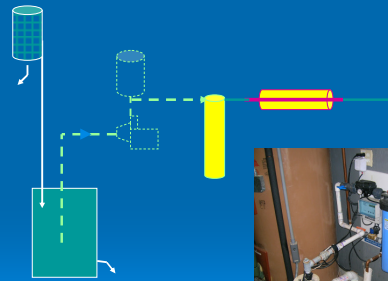


Reuse

➤ Irrigation Systems



Stormwater Reuse



Tracking & Monitoring

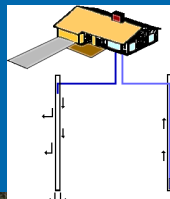
Reuse Data 101909

	Facility	Trans #	Approval Date	Report Cycle Months	Initial Report	Latest report	Next Due	
	Afterglow Farms	157884	091808	6			N/O	
	Ahern	1355090	7-13-07	6		6-5-09	11-5-09	
	Austin Straubel Airport	1693717	10-19-09	6			N/O	
	Barlament	1218070	12-21-05	6	041907	8-25-08	2-25-09	
	Bauer Trucking	1434736	10-2-07	6	9-8-07		9/25/09	
	Bolland	1556268	7-30-08	6	10-7-08	4-7-09	10-7-09	

Comm 82 Rules for Reuse

- 82.34 – Wastewater treatment devices
- 82.40 – Labeling requirements
- 82.41- Cross Connection Control
- 82.365 – Stormwater Infiltration
- 82.70- Plumbing Treatment Standards

Challenges



Innovations:

- Hot Water Circulation Sensors;
- Air Cooled Appliances & Equipment;
- Toilet Upgrades;
- Irrigation:
 - Moisture Sensors;
 - Weather Stations;
 - Drip Irrigation;
 - Engineered Soil;
 - Maximum GPM;



Thank You

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